

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("20060260907").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 09:53
L2	2	("20060130311").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 10:23
L3	2	("4090287").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 10:36
L4	373	Cadigan-E\$.xa,xp.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/01 10:37
L5	1697	((409/232) or (409/231) or (409/234)).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 10:37
L6	45	4 and 5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/01 10:37
L7	13	("20010041106"   "3699843"   "3759536"   "4604010"   "4748879"   "4834597"   "5352073"   "5407308"   "5468102"   "5690137"   "5775857"   "6083146"   "6599068").PN. OR ("6979157"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/03/01 10:37

## EAST Search History

L8	7	("20040060180"   "4535658"   "5026224"   "5234296"   "5567093"   "5620188"   "6569022").PN. OR ("6974287").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/03/01 10:57
L9	3	("4480738").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 11:00
L10	74	Kikuchi-Noriyuki\$.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/01 11:02
L11	1	WO-200200388-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/01 11:02
L12	1	2002-114685.NRAN.	DERWENT	OR	ON	2007/03/01 11:03
L13	0	jp-04025333-\$ did.	DERWENT	OR	ON	2007/03/01 11:03
L14	1	jp-04025333-\$ did.	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:03
L15	2	de-3115481-\$ did.	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:03
L16	1	jp-57189748-\$ did.	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:03
L17	1	jp-61071933-\$ did.	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:03
L18	1	jp-02185341-\$ did.	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:04
L19	6	14 or 15 or 16 or 17 or 18	EPO; JPO; DERWENT	OR	ON	2007/03/01 11:04
S1	2	("5201620").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/03/01 09:51

## EAST Search History

S2	2	("6336057").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 07:24
S3	3	(("5333412") or ("re35898")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 08:18
S4	1	wo-200194071-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 08:18
S5	1	2002-106377.NRAN.	DERWENT	OR	ON	2007/02/26 09:11
S6	2	("5172464").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 08:19
S7	2	Ota-Hidenari\$.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:11
S8	0	("2006/0260907").URPN.	USPAT	OR	ON	2007/02/26 09:11
S9	30	("3822959"   "3998127"   "4637108"   "4644635"   "4664570"   "4712282"   "4797990"   "5044486"   "5679286").PN. OR ("5172464").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 09:16
S10	19	("3587390"   "4090287"   "4423806"   "4566837"   "4747193"   "4809422"   "5062195"   "5172464"   "5321874"   "5439431"   "5538373"   "5781983"   "5819395"   "RE26770").PN. OR ("6826821").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 09:29

## EAST Search History

S11	18	("3200470"   "3998127"   "4652190"   "4921378"   "5172464"   "5220715"   "5265986"   "5301788"   "5321874"   "5564483"   "5662568"   "5868545"   "5933933"   "6210086"   "6264590").PN. OR ("6786686").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 09:37
S12	16	("20010021338"   "5172464"   "5265986"   "5321874"   "5564483"   "5662568"   "5718545"   "5868545"   "5933933"   "5996329"   "6099217"   "6185802"   "6210086"   "6431802"   "6447224"   "6554551").PN. OR ("6785942").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 09:40
S13	371	Cadugan-E\$.xa,xp.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:40
S14	71	Ergenbright-E\$.xa.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:40
S15	1421	((29/33p) or (29/563)).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 09:40
S16	442	S13 or S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:41
S17	20	S16 and S15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:42

## EAST Search History

S18	19	Geiger-Dietrich\$.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:42
S19	13	("20030145449"   "4510668"   "4987668"   "5439431"   "5538373"   "5688084"   "5781983"   "5819395"   "5940948"   "6161457"   "6220799"   "6328510"   "6652204").PN. OR ("7008152"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 09:49
S20	2	jp-2000061755-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:52
S21	2	de-4027895-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 09:53
S22	2	("5818188").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 09:58
S23	2	("6645132").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 10:00
S24	1	jp-04025333-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:03

## EAST Search History

S25	2	("20020020243").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 10:05
S26	0	("wo-9819819-\$ did.").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 10:05
S27	2	wo-9819819-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:06
S28	2	("20020050439").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 10:07
S29	2	jp-10118885-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:11
S30	3724162	vertical\$3 or upright	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:11
S31	91162	pallet or palette or palletiz\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:12

## EAST Search History

S32	5407	S30 near3 S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:13
S33	2614397	work or workpiece	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 10:13
S34	315	S32 with S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:05
S35	0	("2006/0130311").URPN.	USPAT	OR	ON	2007/02/26 10:30
S36	50	((("5192139") or ("5444636") or ("5378091") or ("6120222") or ("6438445") or ("6244928") or ("6291959") or ("6500339") or ("6599066") or ("6585564") or ("6786686") or ("20020045521") or ("6666748") or ("6785942") or ("6641341") or ("6973738") or ("6923603") or ("6761617") or ("6857995") or ("6884009") or ("20060054598") or ("20060260907") or ("20060251484") or ("20060130311") or ("20070011861")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 10:32
S37	1	2006-445368.NRAN.	DERWENT	OR	ON	2007/02/26 10:34
S38	1	2005-418086.NRAN.	DERWENT	OR	ON	2007/02/26 10:35
S40	490	S1 or S2 or S3 or S4 or S6 or S7 or S9 or S10 or S11 or S12 or S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25 or S27 or S28 or S29 or S34 or S36	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:06

## EAST Search History

S41	681	(29/33p).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 12:07
S42	627	S41 not S40	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:07
S43	14	("4614469"   "4678077"   "4794686"   "4921378").PN. OR ("5243745").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 12:15
S44	7	("4287659"   "4590661"   "4785525").PN. OR ("5205806"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 12:17
S45	19	("3931882"   "3979985"   "4291797"   "4324027"   "4369563"   "4449277"   "4480738").PN. OR ("4679286").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 12:30
S46	2	ep-1132409-\$ did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:39
S47	1139	S40 or S41 or S43 or S44 or S45	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:40
S48	446	(198/346.1).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 12:40

## EAST Search History

S49	342	S48 not S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:40
S50	16	("3237708"   "3693965"   "3825245"   "4090287"   "4275983"   "4543970"   "4717306"   "4832170"   "5018617"   "5156254"   "5346051"   "5368150"   "5862718"   "6178609"   "6183188").PN. OR ("6698999"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 12:51
S51	1486	S47 or S48 or S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:51
S52	415	(198/345.3).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 12:52
S53	323	S52 not S51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:57
S54	681	(29/33p).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 12:58
S55	289	ross-d\$.xp,xa.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 12:58

## EAST Search History

S56	14	S54 and S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 13:00
S57	1809	S52 or S51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 13:00
S58	887	(29/563).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 13:00
S59	711	S58 not S57	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 13:01
S60	113	S31 and S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 13:02
S61	35	("3797636"   "3952388"   "3986623"   "4035904"   "4237598"   "4309600"   "4472783"   "4503596"   "4550682"   "4602417"   "4615719"   "4621408"   "4630216"   "4646245"   "4711016"   "4722653").PN. OR ("4870592"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 13:03
S62	47	("3576540"   "3667114"   "3709623"   "3781974"   "3909922"   "3952388"   "4035904"   "4240194"   "4309600"   "4359815"   "4369563"   "4404727"   "4472783").PN. OR ("4711016"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 13:08

## EAST Search History

S63	33	("1422140"   "2837935"   "2934978"   "2953069"   "3203282"   "3487748"   "3599517"   "3609838"   "3733142"   "3740806").PN. OR ("3895424").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/26 13:51
S64	74	kikuchi-Noriyuki\$.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 13:53
S65	2	("20060260907").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 14:08
S66	2	("6826821").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 15:25
S67	1	("20070035812").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/27 07:05
S68	258	Cadugan-E\$.xp.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/27 07:06
S69	246158	"29"/\$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/27 07:06

## EAST Search History

S70	422	(409/143).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/27 07:06
S71	14	S68 and S70	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/27 08:02
S72	2	ep-1068925-\$.did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/27 08:02

DERWENT-ACC-NO: 2002-114685

DERWENT-WEEK: 200481

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TITLE: Unit to machine work pieces; has machine tool with machine bed and working spindle and has work piece support and at least one loading and unloading device supported on transport track

INVENTOR: GEIGER, D; HORN, W ; STENGELE, G

PATENT-ASSIGNEE: HUELLER HILLE GMBH[HUELN] , GEIGER D[GEIGI], HORN W[HORNI], STENGELE G[STENI], CROSS HUELLER GMBH[CROSN]

PRIORITY-DATA: 2000DE-1031731 (June 29, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6826821 B2	December 7, 2004	N/A	000	B23P 023/06
WO 200200388 A1	January 3, 2002	G	037	B23Q 007/14
AU 200175689 A	January 8, 2002	N/A	000	B23Q 007/14
EP 1294531 A1	March 26, 2003	G	000	B23Q 007/14
US 20030172510 A1	September 18, 2003	N/A	000	B23P 023/06

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
US 6826821B2	N/A	2001WO-EP07485	June 29, 2001
US 6826821B2	N/A	2002US-0312822	December 26, 2002
US 6826821B2	Based on	WO 200200388	N/A
WO 200200388A1	N/A	2001WO-EP07485	June 29, 2001
AU 200175689A	N/A	2001AU-0075689	June 29, 2001
AU 200175689A	Based on	WO 200200388	N/A
EP 1294531A1	N/A	2001EP-0953184	June 29, 2001
EP 1294531A1	N/A	2001WO-EP07485	June 29, 2001
EP 1294531A1	Based on	WO 200200388	N/A
US20030172510A1	N/A	2001WO-EP07485	June 29, 2001

INT-CL (IPC): B23C001/02, B23C001/04, B23P023/06, B23Q007/00,  
B23Q007/04, B23Q007/14, B23Q041/02

ABSTRACTED-PUB-NO: WO 200200388A

**BASIC-ABSTRACT:**

**NOVELTY** - The unit has at least one machine tool (36), which has a machine bed (1) connected to a stand (2) and a working spindle (10) that is moved by a working spindle movement unit (13) in vertical x- and horizontal y-directions to hold a tool (16).

**DETAILED DESCRIPTION** - A work piece support (29) with a clamp device (32) for a work piece (15) is arranged in a working chamber (14) arranged in the z-direction in front of the working spindle on the machine bed. At least one loading and unloading device (41) is arranged in the z-direction in front of the machine tool on the other side of the working chamber from the working spindle. A transport track (38) to support the loading and unloading device is arranged in the x-direction in front of the machine tool. The loading and unloading device has at least one work piece movement device (54). The work piece movement device or a work piece support (29) slides in the z-direction to move a work piece.

**USE** - To machine work pieces.

**ADVANTAGE** - Loading and unloading is quick, accurate and cheap.

**DESCRIPTION OF DRAWING(S)** - The figure shows a side view of a tool machine with a loading and unloading unit.

Machine bed 1

Stand 2

End face of stand 3

x-direction slide 4

x-direction guide 5

x-direction linear motor 6

y-direction slide 7

Working spindle 10

Tool holder 11  
Working spindle movement unit 13  
Working chamber 14  
Work piece 15  
Tool 16  
Upper frame 17  
Longitudinal support 18  
Transverse supports 19,20  
Supports 21  
Machine frame 22  
z-direction slide 23  
z-direction guide 24  
Guide shoes 24a  
z-direction linear motor 25  
Turntable 26  
Central axis 27  
Turntable motor 28  
Work piece support 29  
Recess 30  
Adapter 31  
Clamp device 32  
Clamp drive 33  
Clamp jaws 34  
Chip removal unit 35  
Machine tool 36

Loading and unloading side 37

Transport track 38

Upper prism guide 39

Lower prism guide 40

Loading and unloading device 41

Horizontal transport wagon 42

Rollers 43

x-direction electric motor 44

Gear 44a

Toothed rack 44b

Support 45

y-direction guide 46

y-direction slide 47

y-direction electric motor 49

z-direction rails 50

z-direction electric motor 51

z-direction slides 52

Work piece gripper 54

CHOSEN-DRAWING: Dwg.1/14

TITLE-TERMS: UNIT MACHINE WORK PIECE MACHINE TOOL MACHINE BED WORK  
SPINDLE WORK

PIECE SUPPORT ONE LOAD UNLOAD DEVICE SUPPORT TRANSPORT TRACK

DERWENT-CLASS: P54 P56 X25

EPI-CODES: X25-A03B; X25-A03C1; X25-A03C2;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2002-085443